

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 09/760,345

REMARKS

Claims 1-22 are all the claims pending in the application. Claims 1-11 and 17 are being amended. No new matter is introduced.

Claims 1-8 and 10

The Examiner has rejected claims 1-8 and 10 under 35 U.S.C. 103(a) as being allegedly unpatentable over Sicola (U.S. patent No. 6,643,795) in view of Lim et al. (U.S. patent No. 6,526,521). The Examiner further rejected the same claims 1-8 and 10 under 35 U.S.C. 103(a) as being allegedly unpatentable over Ofek (U.S. patent No. 6,044,444) in view of Sicola (U.S. patent No. 6,643,795) and further in view of Lim et al. (U.S. patent No. 6,526,521). Applicant respectfully traverses these rejections in view of Applicant's amendments to claims 1-8 and 10 and further in view of the following arguments.

Specifically, the amended claims 1-4 and 10 generally recite a first storage system comprising a first heartbeat storage volume and a first data storage volume, the first storage system being associated with the first host group and a second storage system comprising a second heartbeat storage volume and a second data storage volume, the second storage system being associated with the second host group, the heartbeat signal being sent from the first heartbeat storage volume of the first storage system via the remote link to the second heartbeat storage volume of the second storage system using a remote copy mechanism.

The amended claims 5-8 generally recite a remote storage system comprising a remote heartbeat storage volume and a remote data storage volume, the remote storage system being

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associated with the remote host group, the heartbeat signal being received by the remote heartbeat storage volume of the remote storage system via the remote link using a remote copy mechanism. In this regard, Applicant respectfully submits that neither Sicola nor Lim et al. nor Ofek, taken singly or in any combination, teach or suggest a separate set of heartbeat volumes (in addition to data storage volumes for storing data) specifically designated for the transmission of the heartbeat signal. This feature of the invention, specifically recited in the amended claims 1-8 and 10, clearly distinguishes the aforesaid amended independent claims from the applied prior art. For this reason, the amended claims 1-8 and 10 are patentable over Sicola, Lim et al. and/or Ofek, or any combination thereof.

Claims 9 and 11-22

The Examiner has rejected claims 9 and 11-22 under 35 U.S.C. 103(a) as being allegedly unpatentable over Carter (U.S. patent No. 6,553,401) in view of Sicola (U.S. patent No. 6,643,795) and further in view of Lim et al. (U.S. patent No. 6,526,521). Applicant respectfully traverses this rejection in view of Applicant's amendments to claims 9, 11 and 17 and further in view of the following arguments.

Specifically, the amended independent claims 9, 11 and 17 generally recite a first (production) storage system comprising a first (production) heartbeat storage volume and a first (production) data storage volume, the first (production) storage system being associated with the first (production) host group and a second (standby) storage system comprising a second (standby) heartbeat storage volume and a second (standby) data storage volume, the second (standby) storage system being associated with the second (standby) host group, the heartbeat

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signal being sent from the first (production) heartbeat storage volume of the first (production) storage system via the remote link to the second (standby) heartbeat storage volume of the second (standby) storage system using a remote copy mechanism.

In this regard, Applicant respectfully submits that neither Carter nor Sicola nor Lim et al., taken singly or in any combination, teach or suggest a separate set of heartbeat volumes (in addition to data storage volumes for storing data) specifically designated for the transmission of the heartbeat signal. This feature of the invention, specifically recited in the amended claims 9, 11 and 17, clearly distinguishes the aforesaid amended independent claims from the applied prior art. For this reason, the amended claims 9, 11 and 17 are patentable over Carter, Sicola, and/or Lim et al., or any combination thereof.

With respect to claims 12-16 and 18-22, while Applicant continues to traverse the Examiner's characterization of the teachings of the prior art used by the Examiner in rejecting those claims, Applicant respectfully submits that the rejection of these claims has been rendered moot by virtue of Applicants' amendments to the parent independent claims 11 and 17, and that these claims are patentable by definition, due to their dependency upon patentable parent claims 11 and 17. Therefore, the claims 12-16 and 18-22 are also patentable.

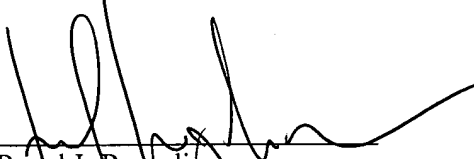
Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

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The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,


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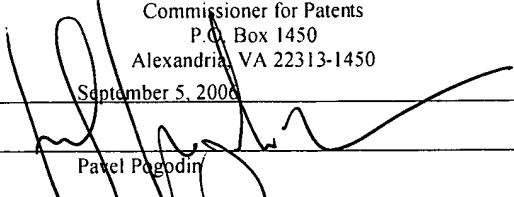
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